

REMARKS

In accordance with the foregoing, the claims 1-7 are amended; thus, the pending claims 1-7 remain for reconsideration, which is respectfully requested.

No new matter has been added and accordingly, entry and approval of the amended claims are respectfully requested.

STATUS OF THE CLAIMS:

Claims 1-7 are pending.

Claims 1-7 are rejected.

ENTRY OF RESPONSE UNDER 37 C.F.R. §1.116:

Applicants request entry of this Rule 116 Response and Request for Reconsideration because:

(a) the amendments of the claims should not entail any further search by the Examiner because the amendments clarify the patentably distinguishing features of the claimed embodiment without raising new issues, and finality of issues with the Examiner has not been reached, since an anticipation rejection cannot be established over Unigraphics, thus warranting entry of clarifying claim amendments and consideration of the remarks and withdrawal of the rejection of claims and/or withdrawal of the finality of the Office Action; and/or

(b) the amendments do not significantly alter the scope of the claims and place the application at least into a better form for appeal and/or simplify issues for appeal. It is believed that no new features or new issues appear to be raised.

Entry of this reply and reconsideration of the claims is respectfully requested, because the amendments and remarks clarify the patentably distinguishing features recited by the language of the claims, because the remarks apply the discussions of Unigraphics specifically to the language of the claims, and because in view of the amendments and remarks it is believed the claims are allowable over Unigraphics.

ITEM 3: REJECTION OF CLAIMS 1-7 UNDER 35 U.S.C. § 102:

In accordance with the foregoing, claim 1 is amended, for clarity, to recite "A partial reprojection method for reflecting a shape modified in a three-dimensional part model on a two-dimensional projection that is generated from an assembly model in a three-dimensional CAD system, the method comprising: grouping elements projected from the assembly model for each part; adding, as part information, attributes of each part, the attributes including a line of sight and a position of the part; and specifying two-dimensional elements to be updated when updating the shape in the three-dimensional part model, so as to decide a projecting direction of the three-dimensional part model from the line of sight of each part included in the part information and to decide a generating position of two-dimensional elements of the part from the position of the part included in the part information." Support for the claim amendment can be found, for example, in the specification at page 10, line 22 to page 11, line 2.

The Office Action, at item 2, asserts that Unigraphics, at page 274 and 150, discloses the claimed "partial reprojection method for reflecting a shape modified in a three-dimensional part model on a two-dimensional projection that is generated from an assembly model in a three-dimensional CAD system, the method comprising: grouping elements projected from the assembly model for each part" as recited, for example, in claim 1.

Applicants respectfully disagree, because Unigraphics, at page 274 recites, in part:

Solid Edge allows you to document multiple parts or assemblies in a single draft document. ... For example, instead of creating a separate draft document for the assembly and each part, you can use the View of Part command to place drawing views of the assembly document and the individual part documents into one draft document.

In other words, Unigraphics discusses that multiple parts may be viewed in a single document. Furthermore, Unigraphics at page 150 recites, in part:

Solid edge allows you to draw and modify 2-D elements in the way that best suits your design needs. ...

Maintaining relationships between 2-D elements makes the elements associative (or related) to each other. When you modify an element that is related to another element, the other element updates automatically. For example, if you move a circle that has a tangential relationship with a line, the line also moves so that the elements remain tangent.

In other words, Unigraphics discloses a general relationship among two-dimensional. However, Unigraphics fails to disclose, either expressly or inherently, a relationship when a projection drawing is made. That is, Unigraphics describes that it is possible to maintain the relationship of geometric connections among two-dimensional elements for performing

editing while maintaining the relationship. However, Unigraphics does not disclose, either expressly or inherently, grouping elements projected from the assembly by a component, that is, Unigraphics fails to disclose, either expressly or inherently, the claimed “grouping elements projected from the assembly model for each part,” as recited, for example, in claim 1.

Accordingly, Applicants respectfully submit that Unigraphics fails to disclose, either expressly or implicitly, the claimed “partial reprojection **method for reflecting a shape modified in a three-dimensional part model on a two-dimensional projection** that is generated from an assembly model in a three-dimensional CAD system, the method comprising: **grouping elements projected from the assembly model for each part**,” as recited in claim 1, because Unigraphics only discloses that multiple 2-D parts may be viewed in a single document and the 2-D elements may be associative when in the document.

The Office Action asserts that Unigraphics at page 269, 280, 296 and 298 discloses the claimed “adding, as part information, attributes of each part, the attributes including a line of sight and a position of the part,” as recited in claim 1.

Applicants respectfully disagree with the assertion, because Unigraphics at pages 269 recites “The projection angle defines the appearance of a new part view that is folded from an existing part view. ... **The option you use affects only part views** created with the View of Part and Principle View commands” (emphasis added). In other words, Unigraphics discusses defining an angle which a part is viewed, however, the option used only affects how the part is viewed. That is, the angle defines only how the part is viewed, and, thus, the angle cannot be used to “**decide a projecting direction of the three-dimensional part model from the line of sight**,” as recited in claim 1.

Furthermore, Unigraphics, at page 296, recites, “Annotations can be associative or non-associative. ... Text boxes differ from the other annotations in that they are always non-associative.” In other words, Unigraphics discusses adding labels, i.e. text boxes, to a part. However, Unigraphics fails to disclose, either expressly or inherently, the claimed “adding, as part information, attributes of each part, the **attributes** including **a line of sight and a position of the part**,” because line of sight and position part attributes clearly differ from text boxes.

Further, Unigraphics, at page 298, recites, “Hole tables are useful means of defining the size and location of a hole. ... You can create hole tables based on the following hole dimensions: ... hole size and location.” In other words, Unigraphics discusses that when a hole is to be formed, the hole can be formed by selecting the hole from a table containing sizes and positions of holes. However, Applicants respectfully submit that Unigraphics fails to disclose,

either expressly or implicitly, the claimed “adding, as part information, attributes of each part, the **attributes including** a line of sight and a **position of the part**,” because Unigraphics discusses a table defining a position of a hole on a part, but Unigraphics fails to disclose the “position of the part,” in relation to other parts.

Further still, Unigraphics, at page 280, recites, “When you change parts and assemblies depicted in part views, you can easily update the views so they match the new geometry. This works because the views are associative to the 3-D part or assembly they were created from. For example, if you add a hole to a 3-D part in the Part environment **and then update the part view** in the Draft environment, the whole geometry is added to the 2-D drawing” (emphasis added). In other words, when a hole is added to a 3-D part, the part must be “updated” before the hole is added to the 2-D drawing. That is, Unigraphics describes that when a component or an assembly is updated, a latest geometric shape of the model can be reflected because the drawing has a relationship with the model when the projection was performed. Thus, Unigraphics merely discusses a conventional projection method, as recited, for example, at page 2, line 28 to page 3, line 7, in the specification. In other words, Unigraphics discusses reloading a part model after a modification is made and projecting 2-D views of the reloaded part model. That is, Unigraphics cannot produce a 2-D projection of the 3-D model which includes the modification until the part is “updated.”

The Office Action, at page 5, in Response to Arguments, assert “Unigraphics also inherently discloses adding attributions to each part information to the two-dimensional projection, the attributions including a line of sight and a position as the line of sight and position are required for each part in order to model and display the two-dimensional projection.” However, claim 1 recites “adding, as part information, **attributes of each part**, the attributes including a line of sight and a position of the part.” That is, in the embodiment according to claim 1, a line of sight and a position is not added to the model as a whole, rather, a “line of sight and a position of the part” are added as attributes for each part in the model.

Further, according to the embodiment in claim 1, the “method for reflecting a shape modified in a three-dimensional part model on a two-dimensional projection,” includes “specifying two-dimensional elements to be updated when updating the shape in the three-dimensional part model, **so as to decide a projecting direction of the three-dimensional part model from the line of sight of each part included in the part information and to decide a generating position of two-dimensional elements of the part from the position of the part included in the part information.**” In other words, because the method “decide[s] a projecting

direction of the three-dimensional part model from the line of sight of each part included in the part information and to decide a generating position of two-dimensional elements of the part from the position of the part included in the part information,” it is unnecessary to update the part and reload the part in order to “[reflect] a shape modified in a three-dimensional part model on a two-dimensional projection.”

The Office Action asserts that Unigraphics, at page 271, discloses the claimed “specifying two-dimensional elements to be updated when updating the shape in the three-dimensional part model, so as to decide a projecting direction of the three-dimensional part model from the line of sight of each part included in the part information and to decide a generating position of two-dimensional elements of the part from the position of the part included in the part information.”

Applicants respectfully disagree, because Unigraphics, at page 271, recites “If you set the Maintain Relationships option on the Tools menu, the graphics you draw in a draft view can be updated associatively, similar to the profiles you draw in the Part environment. You can place driving dimensions and apply relationships to control the size and location of the elements.” In other words, Unigraphics, at page 271, merely repeats that a graphic can be updated “associatively.” Accordingly, Applicants respectfully submit that Unigraphics fails to disclose, either expressly or inherently, the claimed “specifying two-dimensional elements to be updated when updating the shape in the three-dimensional part model, so as to decide a projecting direction of the three-dimensional part model from the line of sight of each part included in the part information and to decide a generating position of two-dimensional elements of the part from the position of the part included in the part information,” as recited in claim 1.

Furthermore, Applicants respectfully submit that Unigraphics would not enable one skilled in the art to make or use the claimed “partial reprojection method for reflecting a shape modified in a three-dimensional part model on a two-dimensional projection that is generated from an assembly model in a three-dimensional CAD system, the method comprising: grouping elements projected from the assembly model for each part; adding, as part information, attributes of each part, the attributes including a line of sight and a position of the part; and specifying two-dimensional elements to be updated when updating the shape in the three-dimensional part model, so as to decide a projecting direction of the three-dimensional part model from the line of sight of each part included in the part information and to decide a generating position of two-dimensional elements of the part from the position of the part included

in the part information,” because, as discussed above, Unigraphics discusses a convention projection method which requires the part to be reloaded after it is modified.

In Response to Arguments, at item 7, the Office Action points to page 280, 2nd paragraph, of Unigraphics, which recites, “When a drawing view is out-of-date with respect to the 3-D model, the software displays a solid border or box around it on the drawing sheet.” In other words, Unigraphics discusses that when a 2-D drawings is out of date with respect to a 3-D model, a border surrounds the out of date 2-D drawing. That is, Unigraphics discusses that when a model is updated, a projection drawing of the model is not in the latest state, and a display indicating that the projection drawing is not in the latest state indicates that elements that are not included in the projection drawing can be delivered. As discussed above, in Unigraphics, a 3-D drawing must be “updated” before a 2-D drawing can reflect a modification to the 3-D drawing. Thus, page 280, 2nd paragraph highlights the differences between Unigraphics and the claimed embodiment according to claim 1, because Unigraphics fails to disclose a “partial reprojection method for reflecting a shape modified in a three-dimensional part model on a two-dimensional projection ... comprising ... specifying two-dimensional elements to be updated when updating the shape in the three-dimensional part model, so as to decide a projecting direction of the three-dimensional part model from the line of sight of each part included in the part information and to decide a generating position of two-dimensional elements of the part from the position of the part included in the part information.” In other words, in Unigraphics, a 3-D drawing must be “updated” before a 2-D drawing can reflect a modification to the 3-D drawing, whereas, in contrast, according to the embodiment in claim 1, a partial reprojection for reflecting a shape modified in a three-dimensional part model on a two-dimensional projection can be made without reloading (updating) the model, because the projection is performed by “specifying two-dimensional elements to be updated when updating the shape in the three-dimensional part model, so as to decide a projecting direction of the three-dimensional part model from the line of sight of each part included in the part information and to decide a generating position of two-dimensional elements of the part from the position of the part included in the part information.”

Accordingly, Applicants respectfully submit that claim 1 patentably distinguish over the cited reference.

Dependent claims 2-7 are patentably distinguishing at least due to their dependence from independent claim 1 and/or for reciting patentably distinguishing features of their own. Withdrawal of the rejection of the pending claims and allowance of the pending claims is respectfully requested.

CONCLUSION

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.


Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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Date: Sept. 4, 2007

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